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(71) Applicant and

(72) Inventor: POWELL, David, John [GB/GB]; 33 Fishpond Lane, Egginton, Derby Derbyshire DE65 6JH (GB).

(74) Agents: HACKNEY, Nigel et al.; Mewburn Ellis LLP, York House, 23 Kingsway, London Greater London WC2B 6HP (GB).

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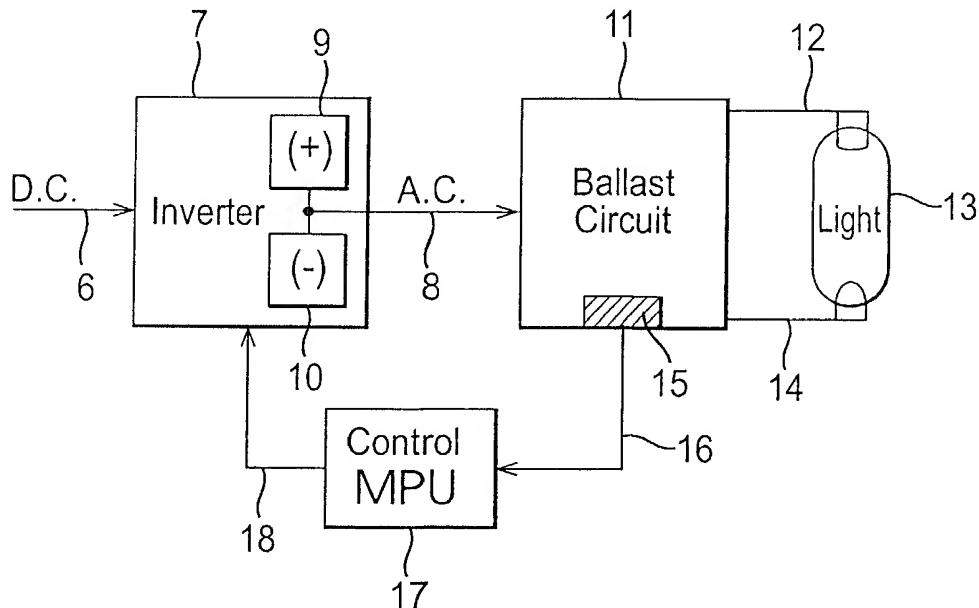
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(54) Title: APPARATUS AND METHOD FOR CONTROLLING DISCHARGE LIGHTS



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(57) Abstract: Apparatus and method for supplying AC power (e.g. from an inverter) to a discharge light via a ballast circuit formed by a resonant circuit, and controlling the frequency of the AC power signal so as to operate below the natural resonance frequency of the ballast circuit in use after the discharge light has "struck".



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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB2004/005413

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H05B41/38

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H05B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 611 021 A (KENNETH A. WALLACE) 5 October 1971 (1971-10-05) column 4, line 15 - column 4, line 73; figures 1-3 -----	1-9,11, 14, 16-20, 22-27, 31,32
A	US 5 691 607 A (ZAWISLAK ET AL) 25 November 1997 (1997-11-25) column 2, line 34 - column 3, line 64; figures 1,2 -----	8,14,19, 29
X	GB 2 279 187 A (* THORN LIGHTING LIMITED) 21 December 1994 (1994-12-21) page 1, line 14 - page 5, line 8; figures 1-3 ----- -/-	1,2,16, 17

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Albertsson, E

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 926 928 A (TOSHIBA LIGHTING & TECHNOLOGY CORPORATION; TOSHIBA LIGHTING & TECHNOLO) 30 June 1999 (1999-06-30) column 3, paragraph 15 - column 24, paragraph 132; figures 1-24 -----	1,2,16, 17
A	US 5 525 870 A (MATSUZAWA ET AL) 11 June 1996 (1996-06-11) -----	
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A	US 5 844 380 A (SIEPKES ET AL) 1 December 1998 (1998-12-01) -----	

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2004/005413

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-32

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-32

A method for controlling the power fed to a discharge lamp by AC power via a ballast circuit resonating at a predetermined value of the frequency of said AC power, the method including:
maintaining the frequency of said AC power to be always under said predetermined value after the discharge lamp has struck.

2. claims: 33-45

A method for controlling the power delivered to a discharge lamp from a source of DC power, the power being delivered via an inverter and a ballast circuit as AC power, the method including:
monitoring variations in the DC power input to the inverter and varying the frequency of the AC power according to detected variations in the DC power input, such as to control variations in the power supplied to the discharge lamp via the ballast circuit.

3. claims: 46-49

A method for controlling the power fed to a discharge lamp by AC power via a ballast circuit, the method including:
monitoring the ambient illumination level in the vicinity of the lamp and adjusting the frequency of said AC power to adjust the power delivered to and ultimately radiated by the discharge lamp, thereby to maintain the ambient light illumination level at a substantially constant value.

INTERNATIONAL SEARCH REPORT

International Application No PCT/GB2004/005413

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